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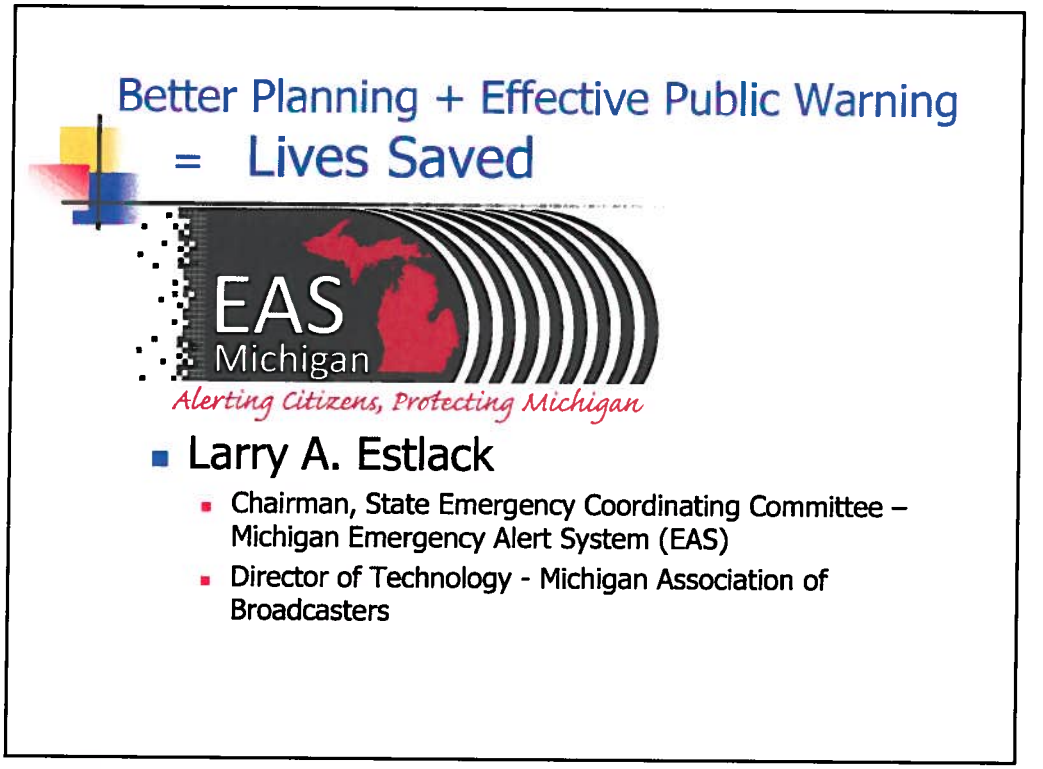
Larry Estlack, MAB Director of Technology

Presentation to the House Energy and Technology Committee

EMnet - Michigan's Emergency Management Communications System

May 22, 2012



Good Morning,

I'm Larry Estlack and have been the Director of Technology for the Michigan Association of Broadcasters for the last 11 years. I have been in broadcasting and engineering since I was 14, in fact spinning those flat, black and circular things that were called records -- a very ancient sound storage device. -- Don't bother to ask your kids, I'd bet they have no idea of what they even looked like.

It's actually another one of my jobs that brings me here to speak with you for a few minutes this morning. One of the reasons I love broadcasting is the outstanding life-saving service it can provide to our communities, especially in times of local emergencies.

After graduating from MSU, my first full time broadcasting job was as Chief Engineer at WILS, which at that time, was the lead radio station for the Emergency Broadcast System (EBS) for South Central Michigan. I served as the local Chairman, and in 1987, the FCC appointed me to chair the state EBS committee, and soon thereafter the EBS became the Emergency Alert System. The FCC saw back then that public warning could take many paths including sirens, cable TV reverse 911 systems among others, so they made that name change.

This morning, I am going to introduce you to the next phase in this growth process, and another name change: the Integrated Public Alert Warning System, otherwise known as IPAWS. It's a logical, and much needed next step.

By a raise of hands, how many of you had a handheld cellphone in 1987? Better yet, a portable battery operated computer?

I'm sure you realize an explosion in communication has happened in 25 years. FAX machines were very cool in 1985. Today, if you still have one, it's probably collecting dust.

Why Plan?
Let's consult some experts...

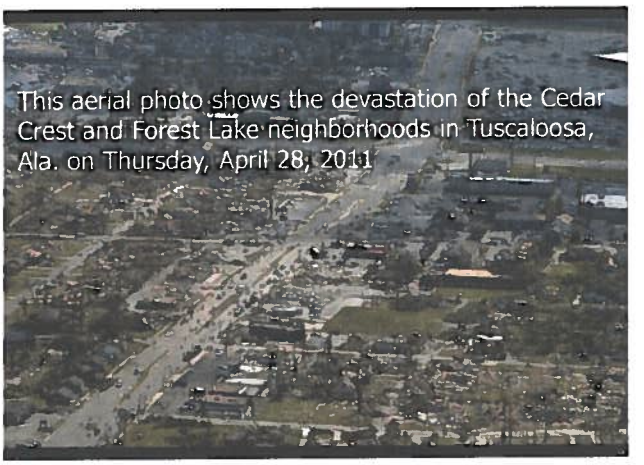
- "Where there is no vision, the people perish." - The Holy Bible (Proverbs 29:18)

Why Plan?
Let's consult some experts...

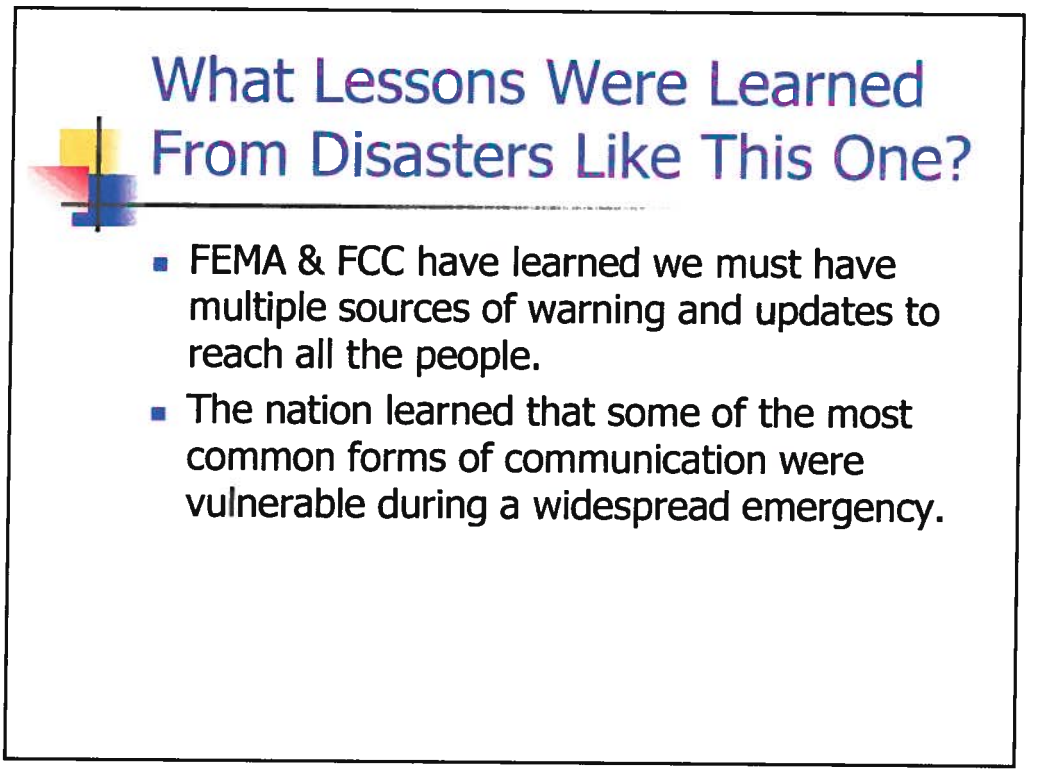
- "You can always amend a big plan, but you can never expand a little one. I don't believe in little plans. I believe in plans big enough to meet a situation which we can't possibly foresee now."
  -Harry S. Truman (1884 - 1972)

Why Plan?
Let's consult our experts...

ON THE SCENE



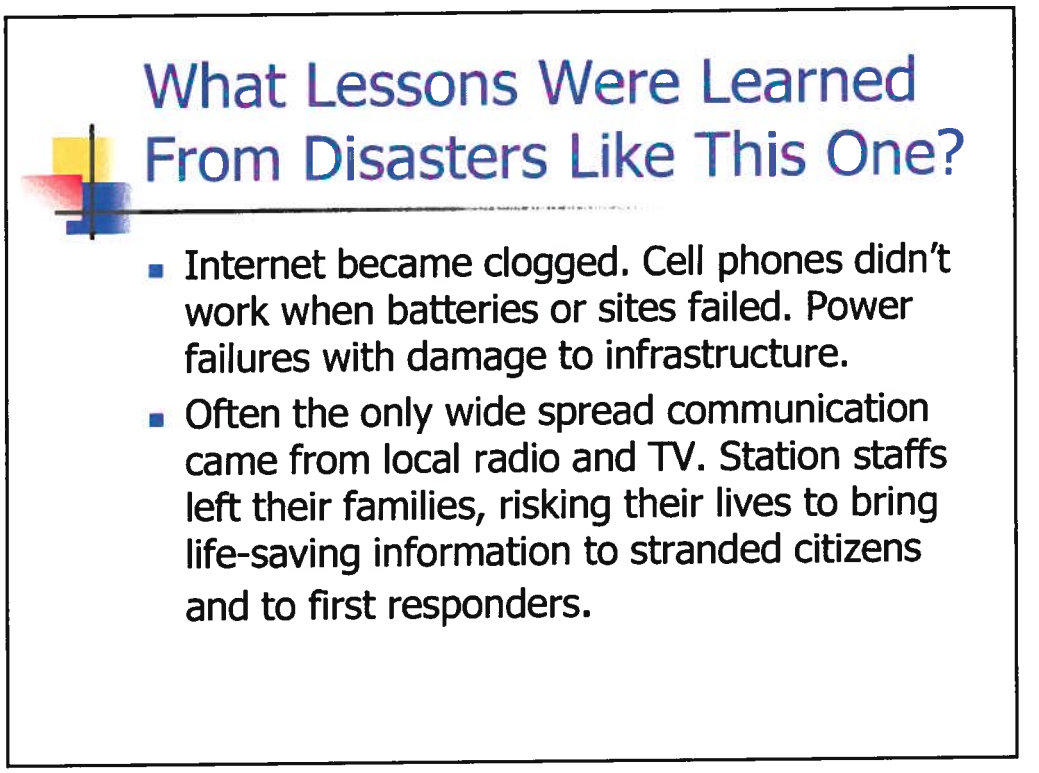
This aerial photo shows the devastation of the Cedar Crest and Forest Lake neighborhoods in Tuscaloosa, Ala. on Thursday, April 28, 2011



What Lessons Were Learned From Disasters Like This One?

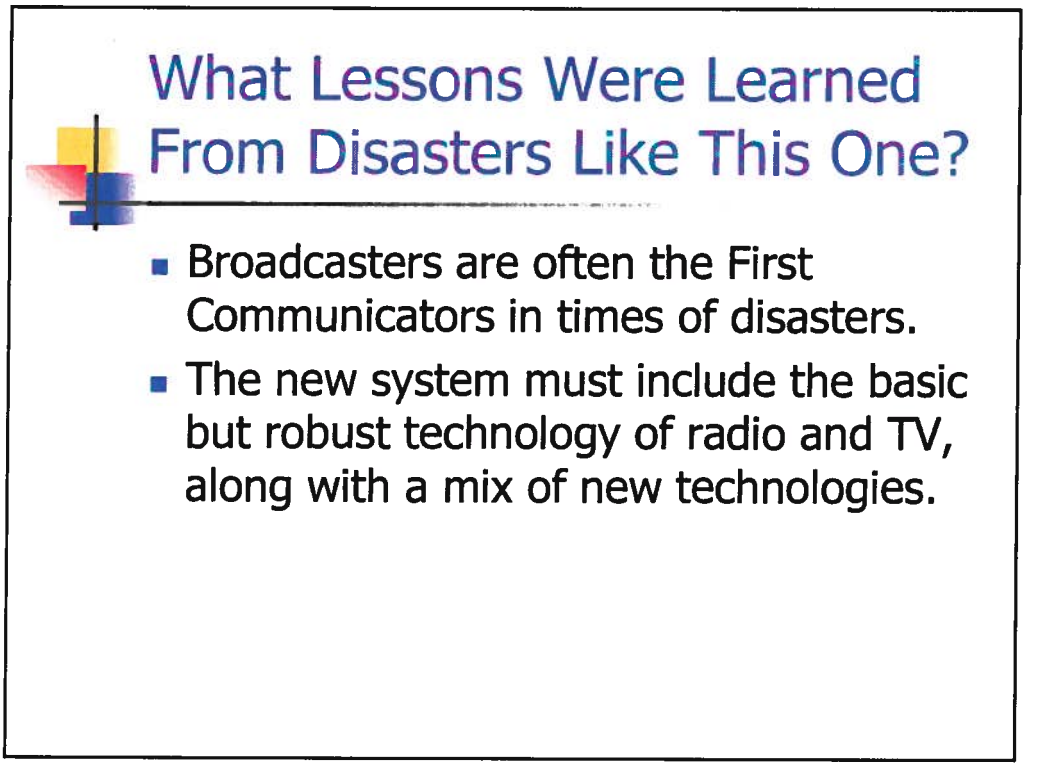
FEMA & FCC have learned we must have multiple sources of warning and updates to reach all the people.

The nation learned that some of the most common forms of communication were vulnerable during a widespread emergency



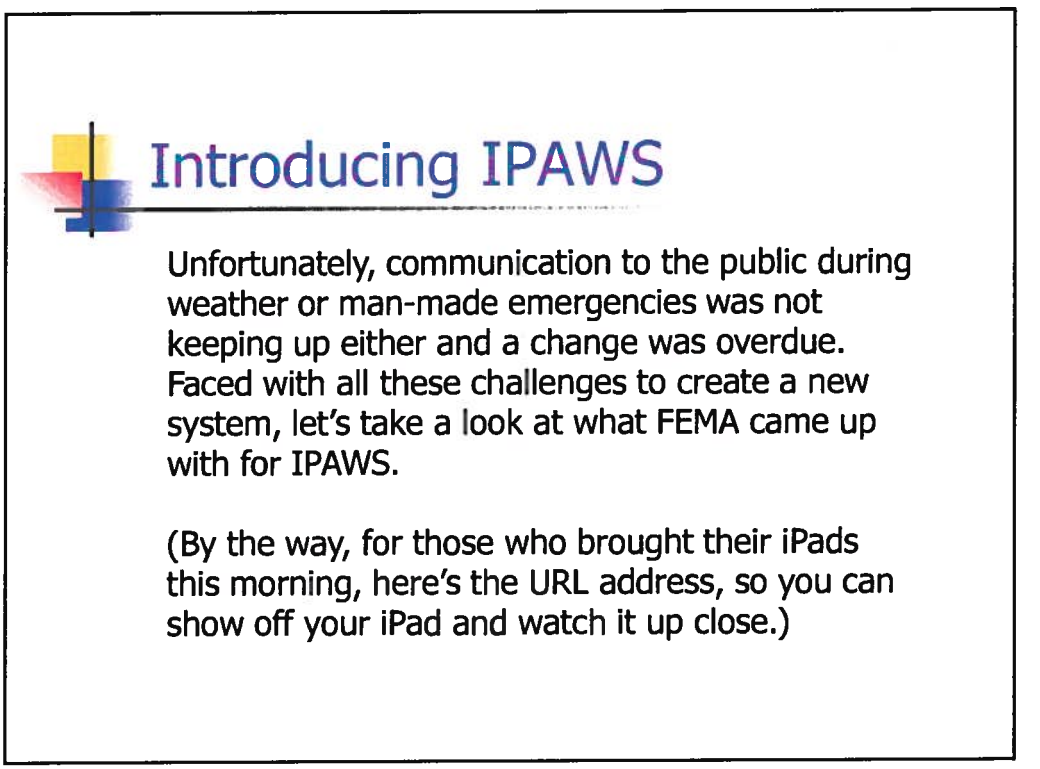
Internet became clogged. Cell phones didn't work when batteries or sites failed. Power failures with damage to infrastructure.

Often the only wide spread communication came from local radio and TV. Station staffs left their families, risking their lives to bring life-saving information to stranded citizens and to first responders.



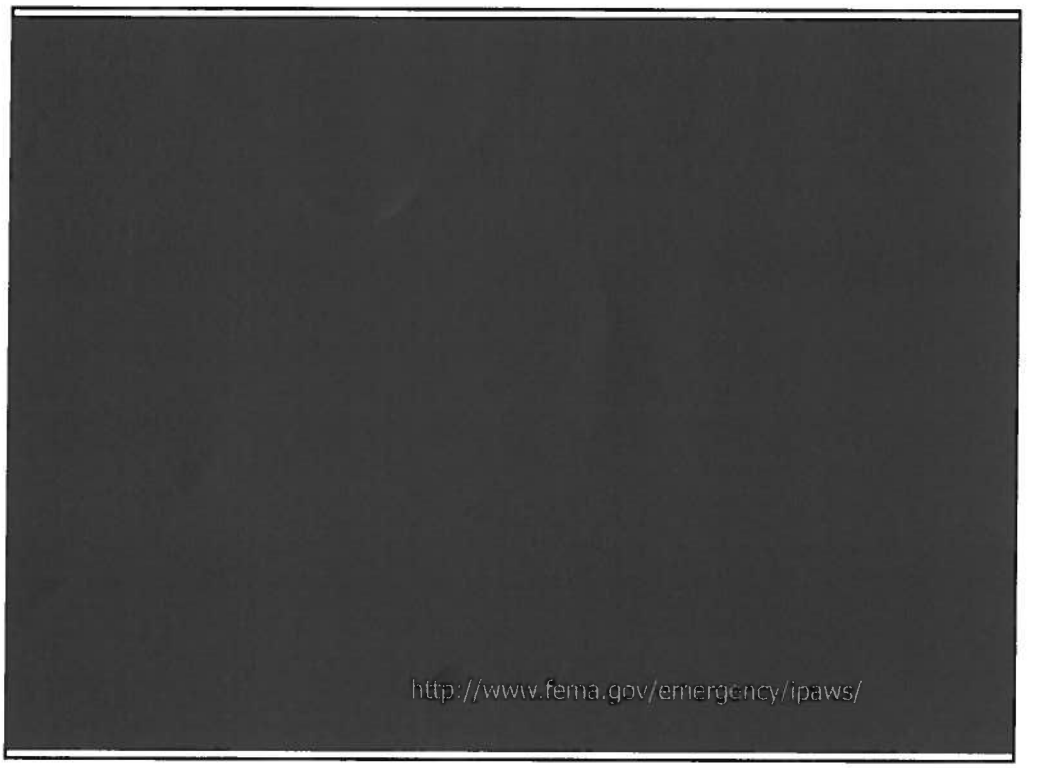
Broadcasters are often the First Communicators in times of disasters.

The new system must include the basic but robust technology of radio and TV, along with a mix of new technologies

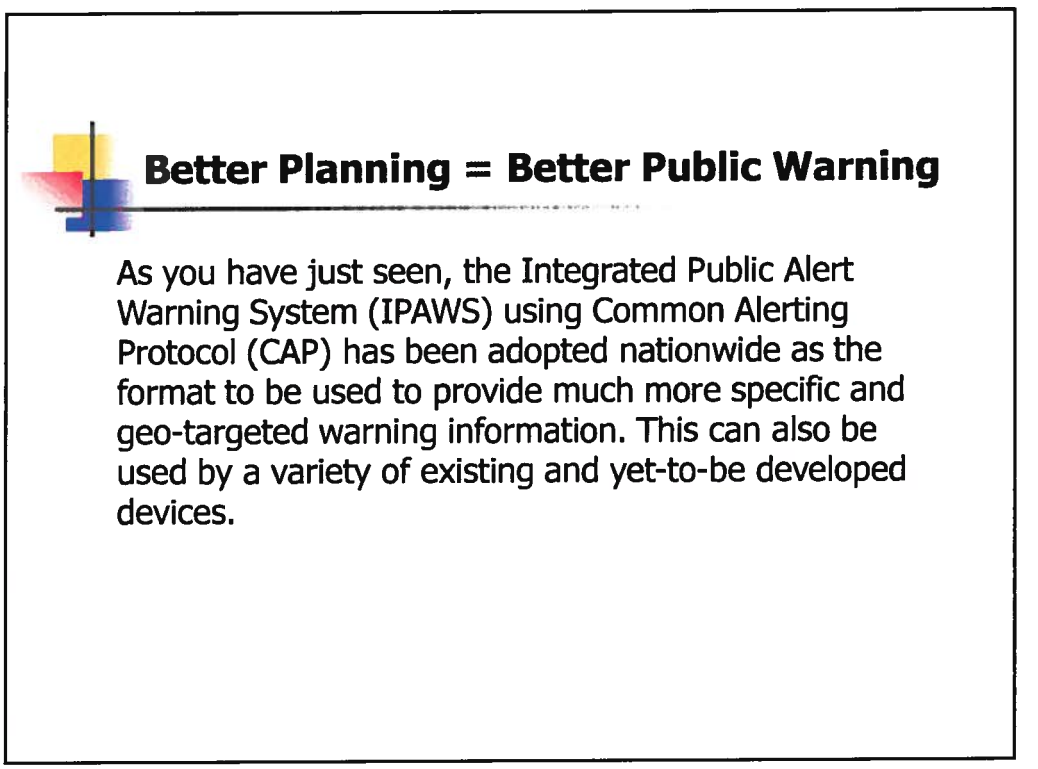


Unfortunately, communication to the public during weather or man-made emergencies was not keeping up either and a change was overdue. Faced with all these challenges to create a new system, let's take a look at what FEMA came up with for IPAWS.

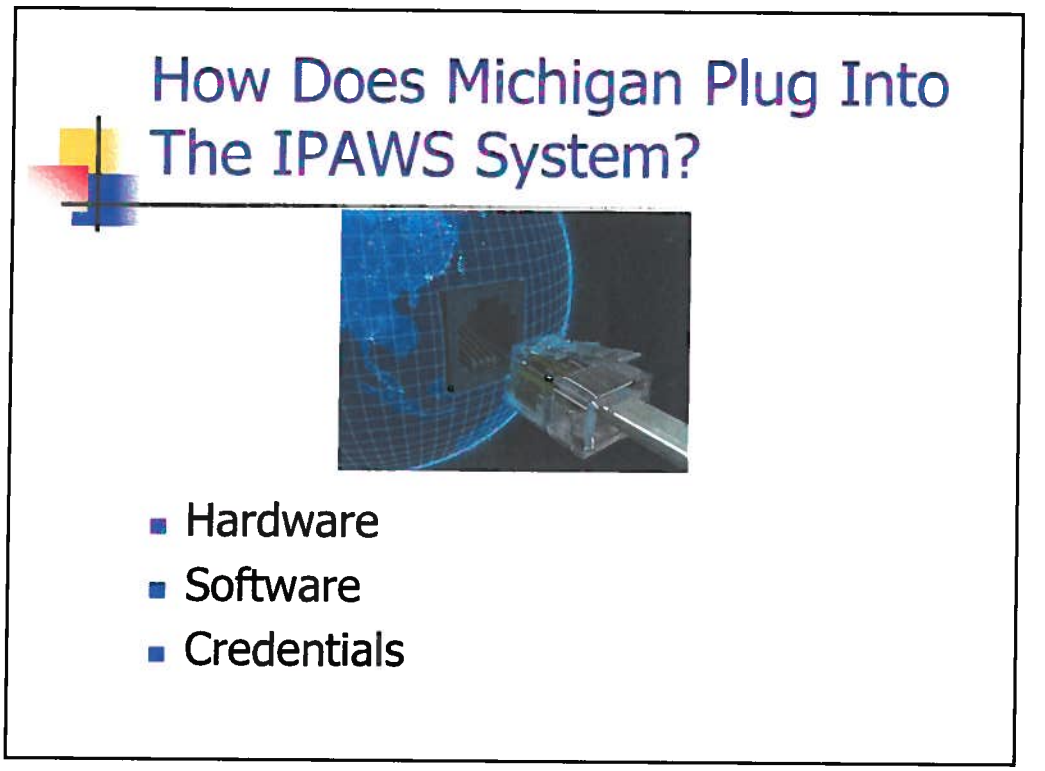
(By the way, for those who brought their iPads this morning, here's the URL address, so you can show off your iPad and watch it up close.)



Video: http://www.fema.gov/emergency/ipaws/



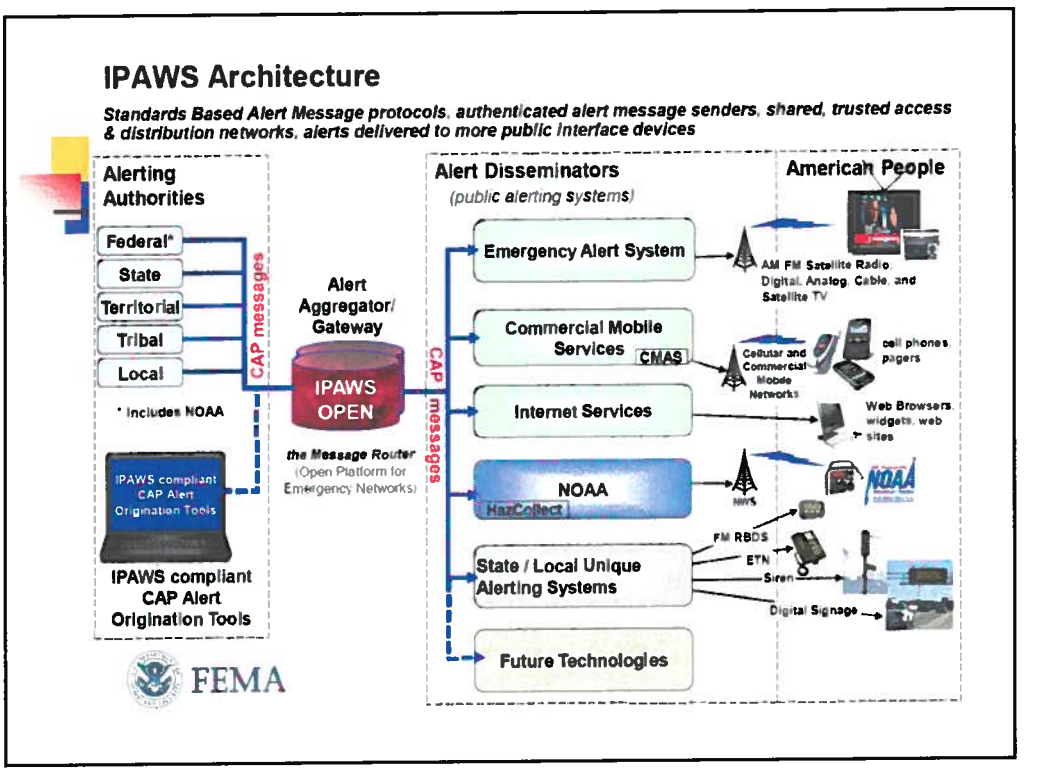
As you have seen, the Integrated Public Alert Warning System (IPAWS) using Common Alerting Protocol (CAP) has been adopted nationwide as the format to be used to provide much more specific and geo-targeted warning information. This can also be used by variety of existing and yet to be developed devices.



To effectively use this federally mandated system, the Michigan State Police and Emergency Managers in nearly half of the counties in Michigan, have had the foresight and have invested in the hardware and software capable of creating interoperable messages in this format. I congratulate each of them for their vision and smart planning. Hopefully the rest of Michigan counties will soon come on board for their citizens.

All broadcast and cable systems will be ready in just a couple of months from now, July 2012, along with many cell phone carriers, followed by electronic message signs and many other devices. To ensure security of the IPAWS, FEMA will provide training and credentialing.

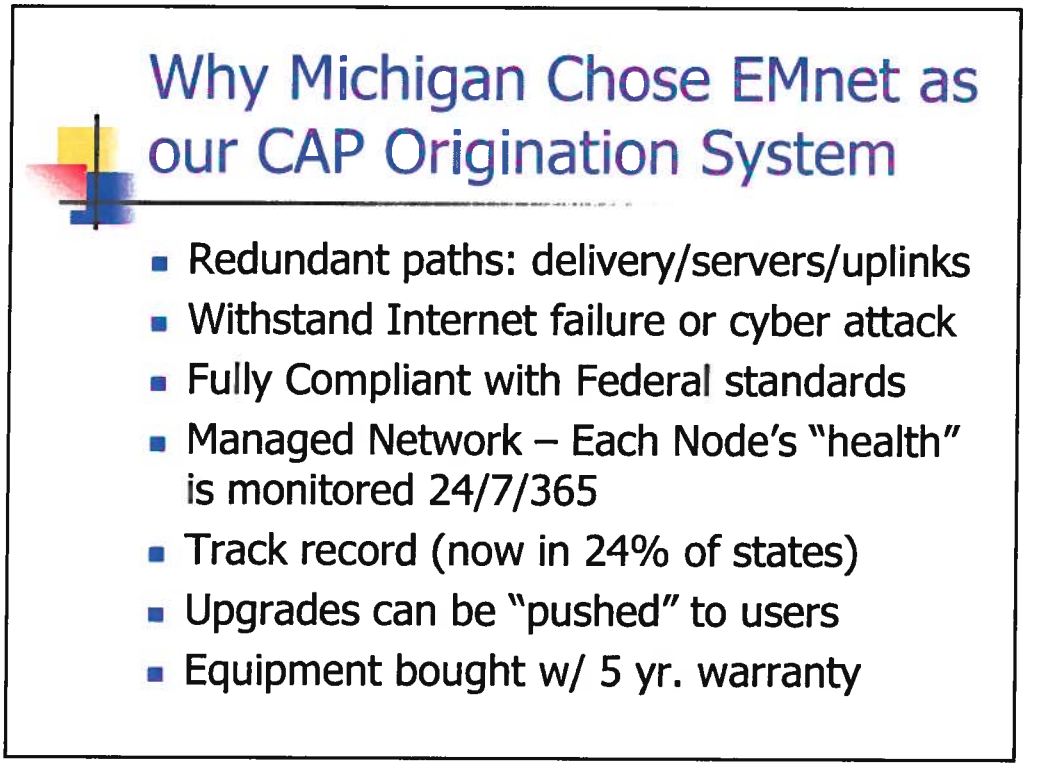
Now is the time to plan the most effective ways to use this new asset, leverage its many features to prepare more effective emergency messaging for our citizens and discover additional uses for this new system. Let's take a more detailed look at how the new system will work in Michigan.



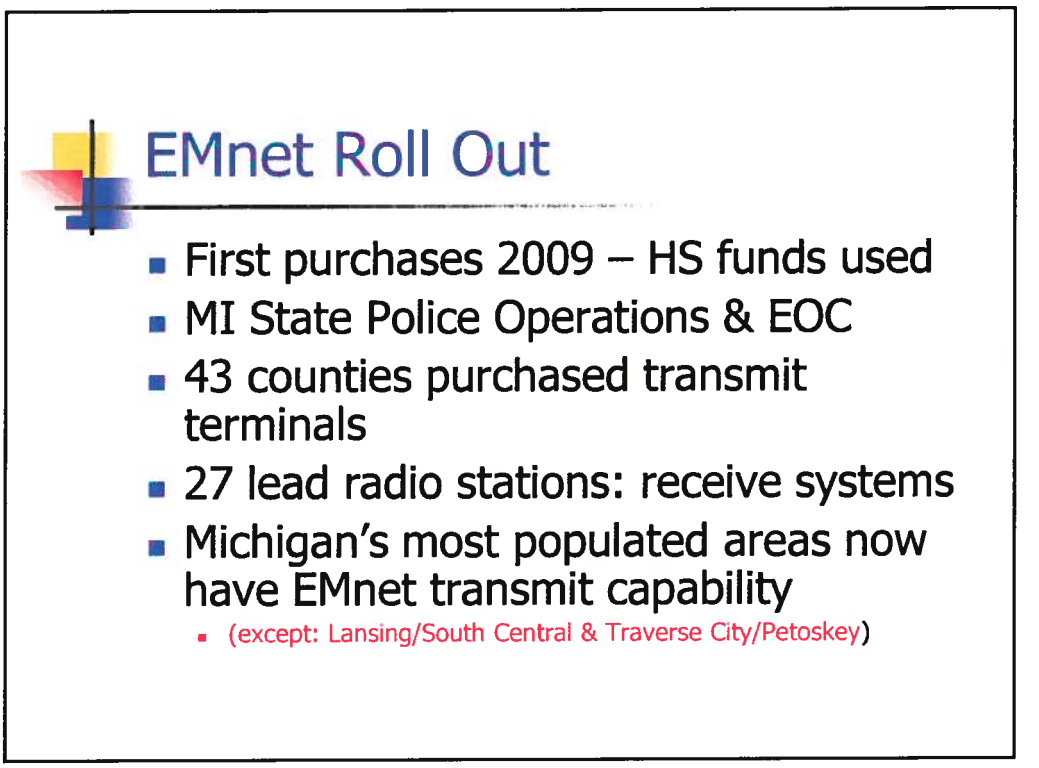
This graphic should now look familiar. It represents a linear, organized information flow from input sources, through the IPAWS gateway and aggregator. You'll notice content from federal sources including NOAA, join that from each state, territory, tribal and local system. IPAWS compliant origination tools, even a laptop running proper third party software are all inputters.

The router sends the messages to a variety of disseminators: EAS, Commercial Mobile alerting services (CMAS), internet, NOAA, State and local systems. And so we don't paint ourselves into a corner, room for future disseminators.

Lastly, we reach our destination—the American People.



Why Michigan Chose EMnet as our CAP Origination System
Redundant paths: delivery/servers/uplinks
Withstand Internet failure or cyber attack
Fully Compliant with Federal standards
Managed Network – Each Node's "health" is monitored 24/7/365
Track record (now in 24% of states)
Upgrades can be "pushed" to users
Equipment bought w/5 yr. warranty



EMnet Roll Out

First purchases 2009 – HS funds used

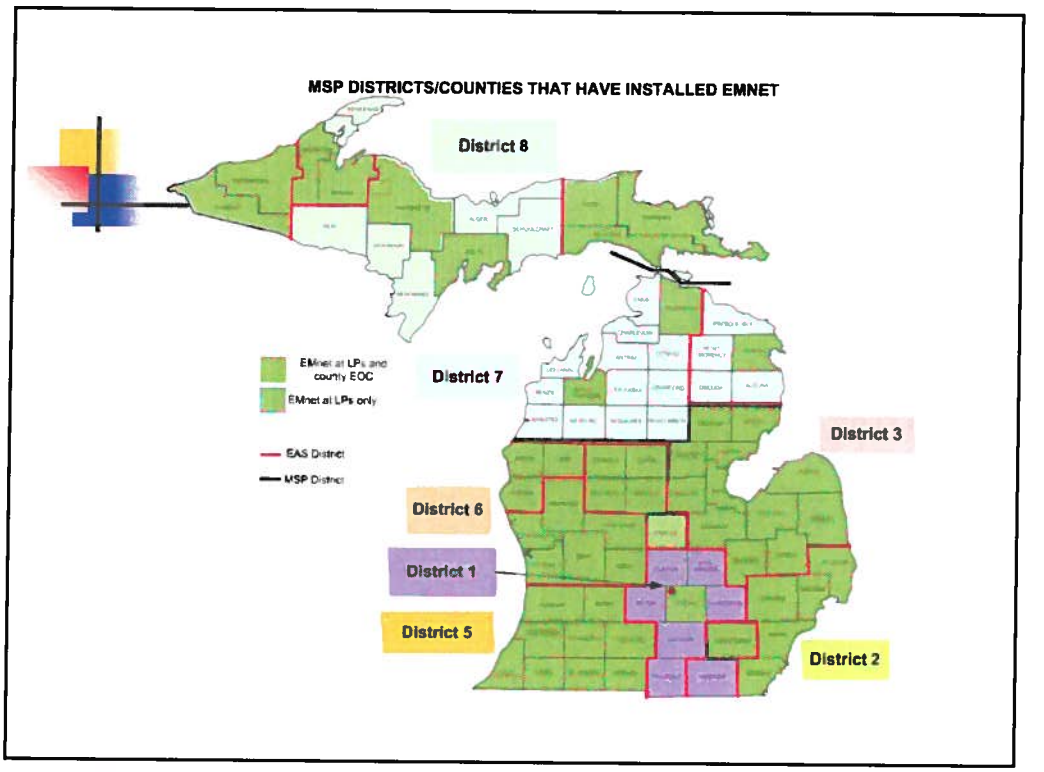
MI State Police Operations & EOC

43 counties purchased transmit terminals

27 lead radio stations: receive systems

Michigan's most populated areas now have EMnet transmit capability

(except: Lansing/South Central & Traverse City/Petoskey)



This map displays the Michigan State Police districts and the counties within those districts that have installed EMnet.

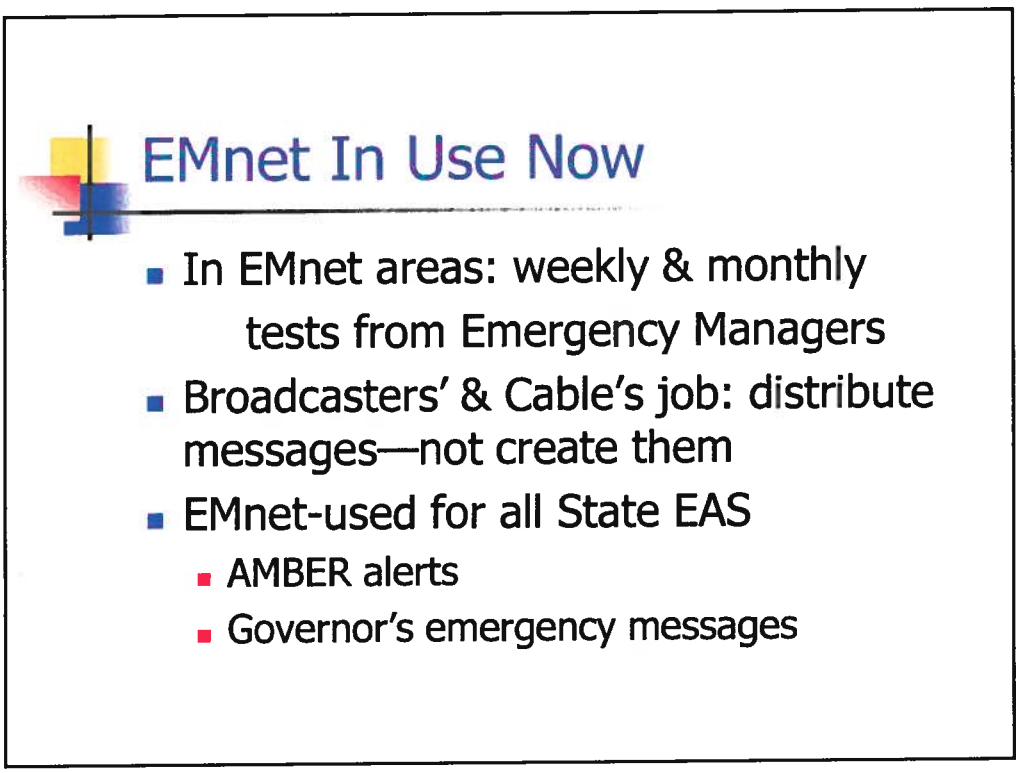
You'll notice district one has equipment only for receiving at the two key radio stations. The rest of district one has no equipment for transmission or receiving at the county levels.

Districts two, three, five, and six are fully equipped with transmitting equipment at each county and receiving equipment at all the local primary radio stations.

Things are not as good as we go northward. District seven has receive equipment located at the key radio stations, but no transmit equipment at the county level.

District eight is a mixture. The two most western counties have transmit equipment at the county level and receive equipment at the radio stations, just as the counties at the eastern part of the UP do. However, at the center of the upper peninsula, we have no transmit equipment, only receiving equipment at the local radio stations.

But do remember that there is transmit equipment at the MIOC and at the EOC here at the State level.



EMnet In Use Now

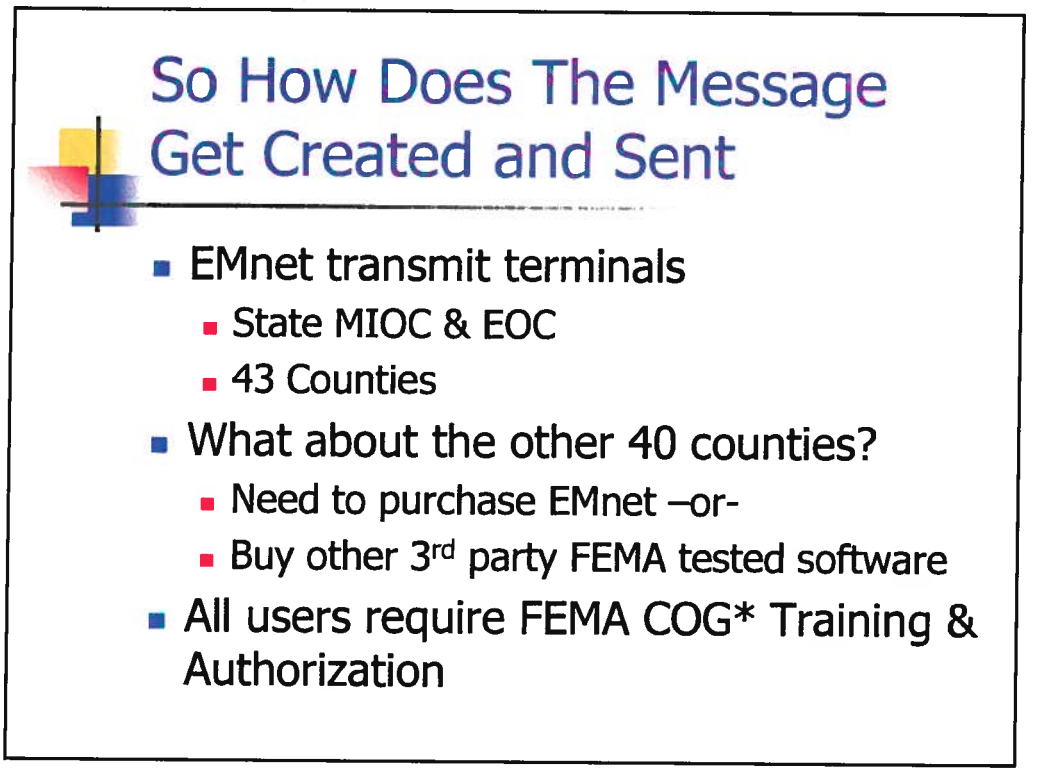
In EMnet areas: weekly & monthly tests from Emergency Managers

Broadcasters' & Cable's job: distribute messages—not create them

EMnet-used for all State EAS

AMBER alerts

Governor's emergency messages



So How Does the Message Get Created and Sent?

EMnet transmit terminals

State MIOC & EOC

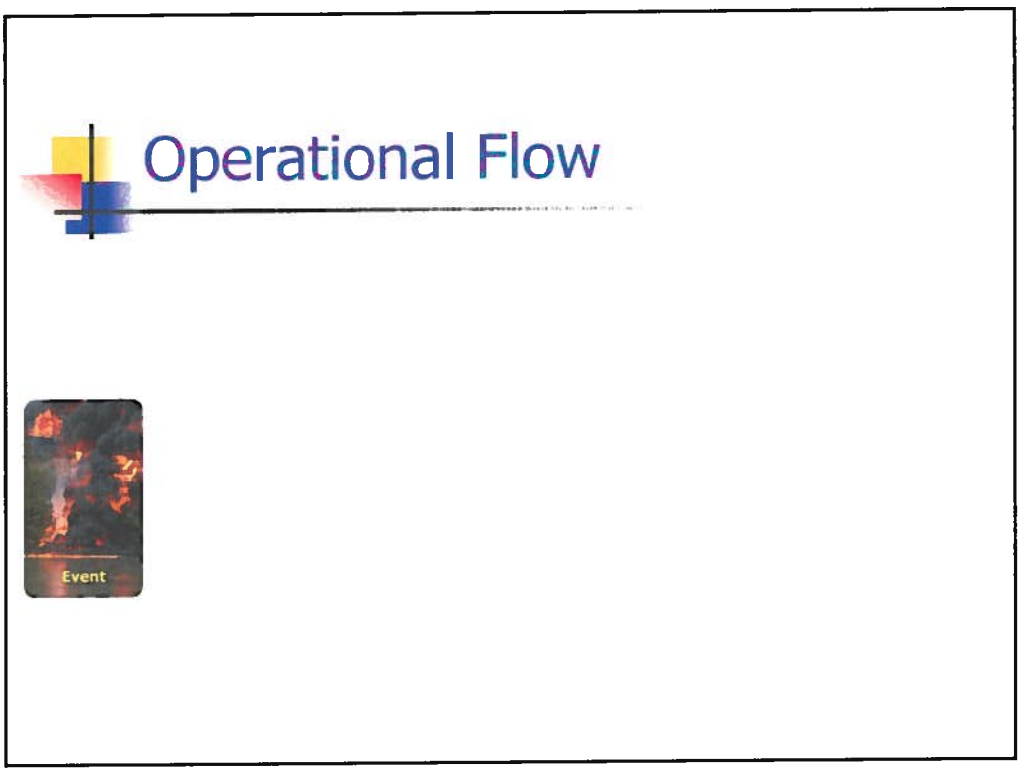
43 Counties

What about the other 40 counties?

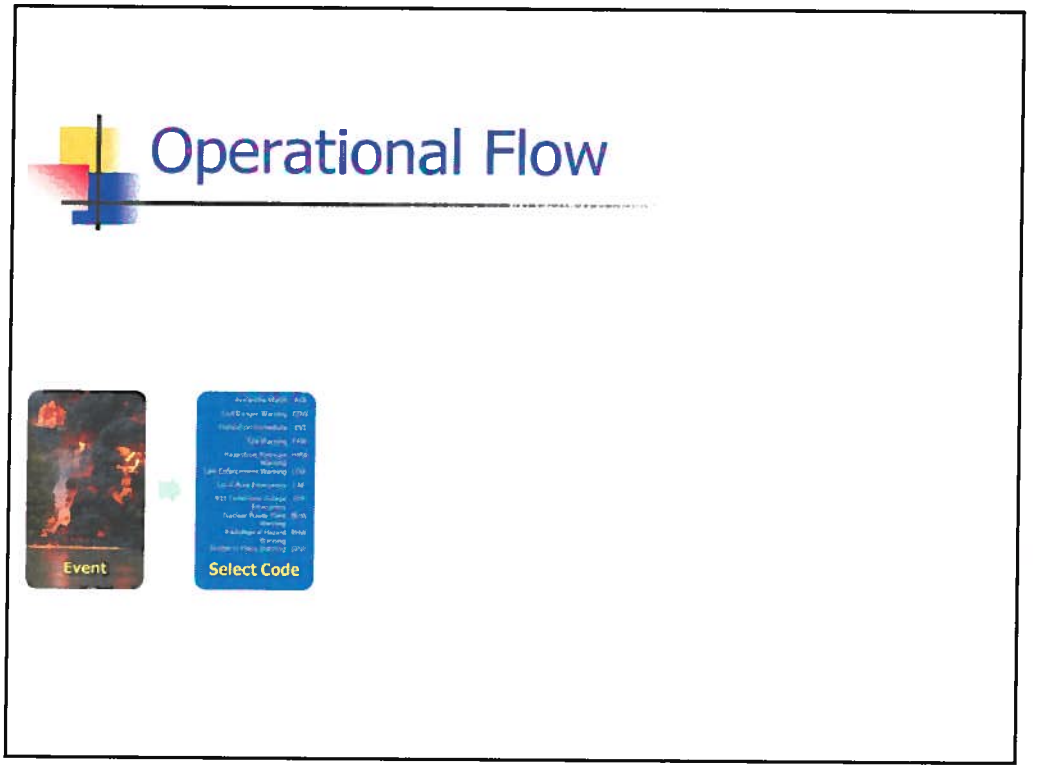
Need to purchase EMnet –or-

Buy other 3rd party FEMA tested software

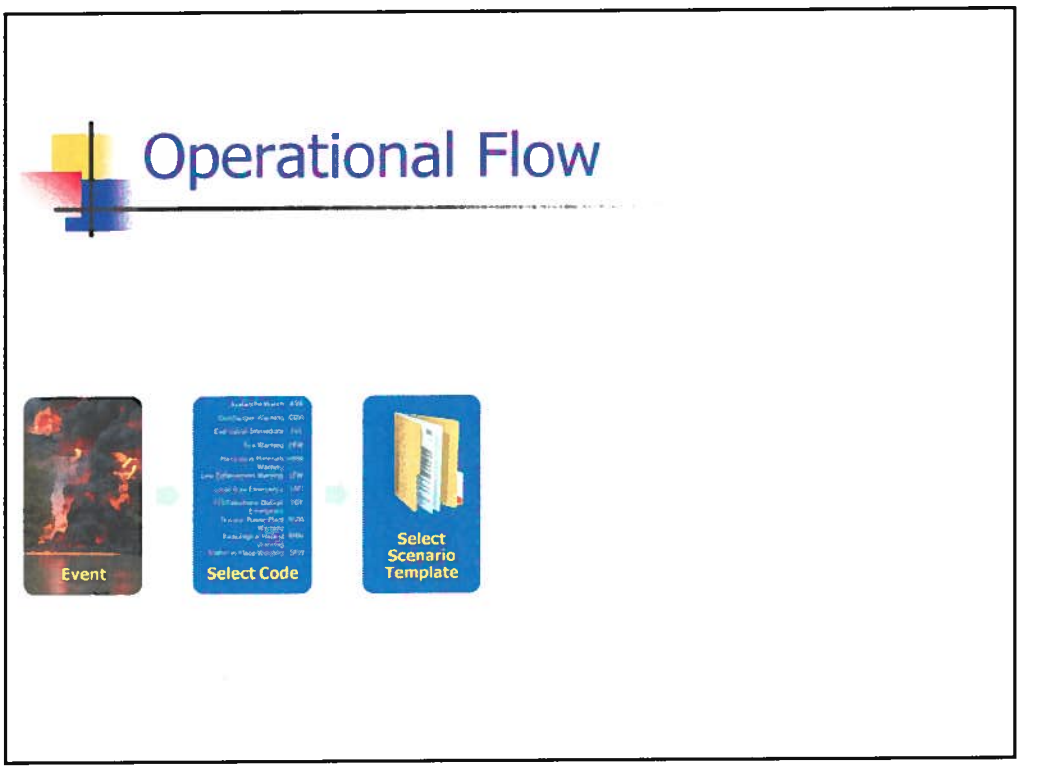
All users require FEMA COG* Training & Authorization



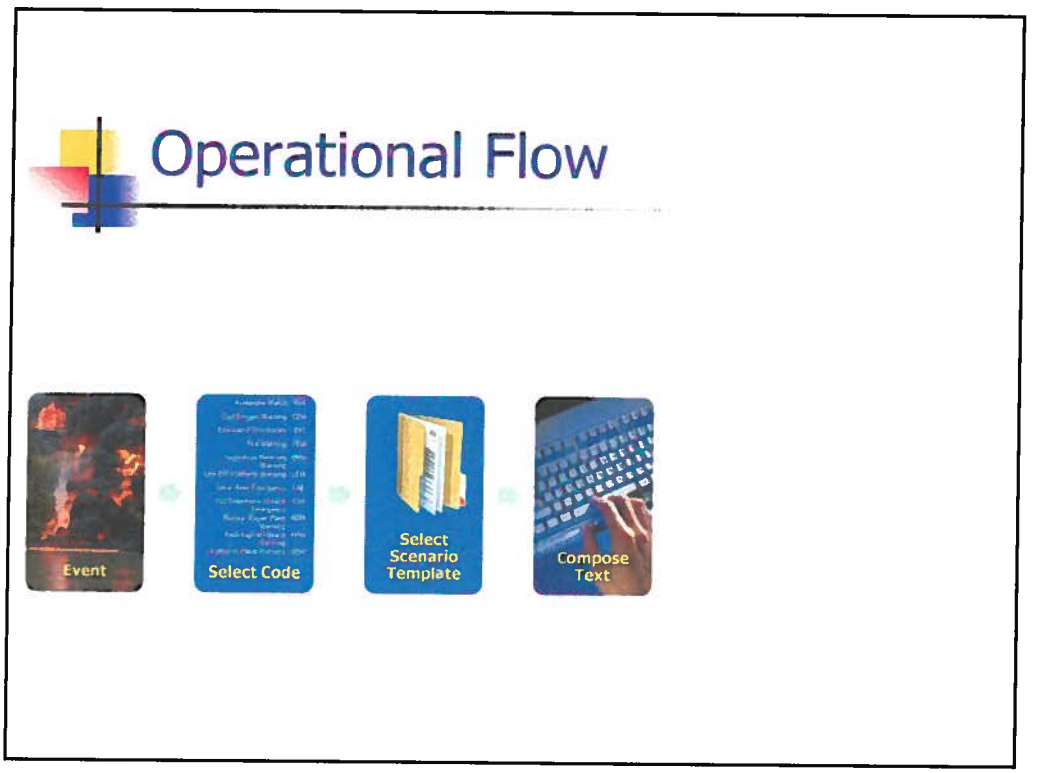
Now, let's just go through a typical scenario of how a message is sent. First, we have some sort of incident



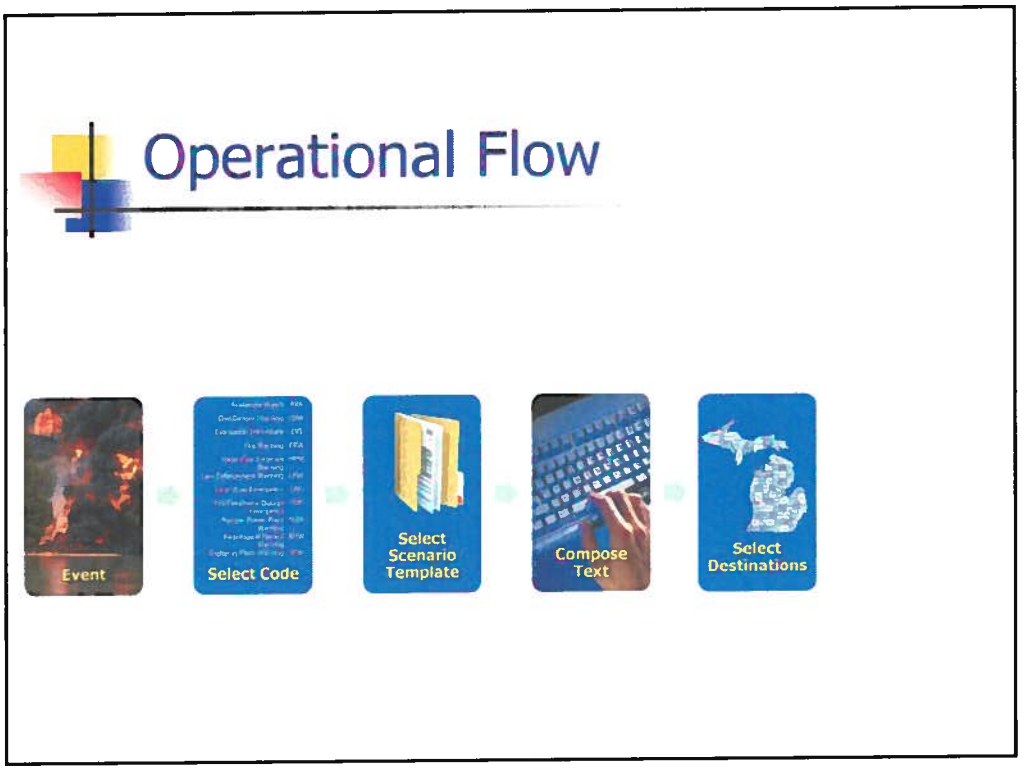
Good, moving on. The emergency manager is informed of the incident and must assign it a code based on what type of incident has occurred and what is the desire public action.



He goes into his reference materials and pulls up a suggested template for the type of emergency.



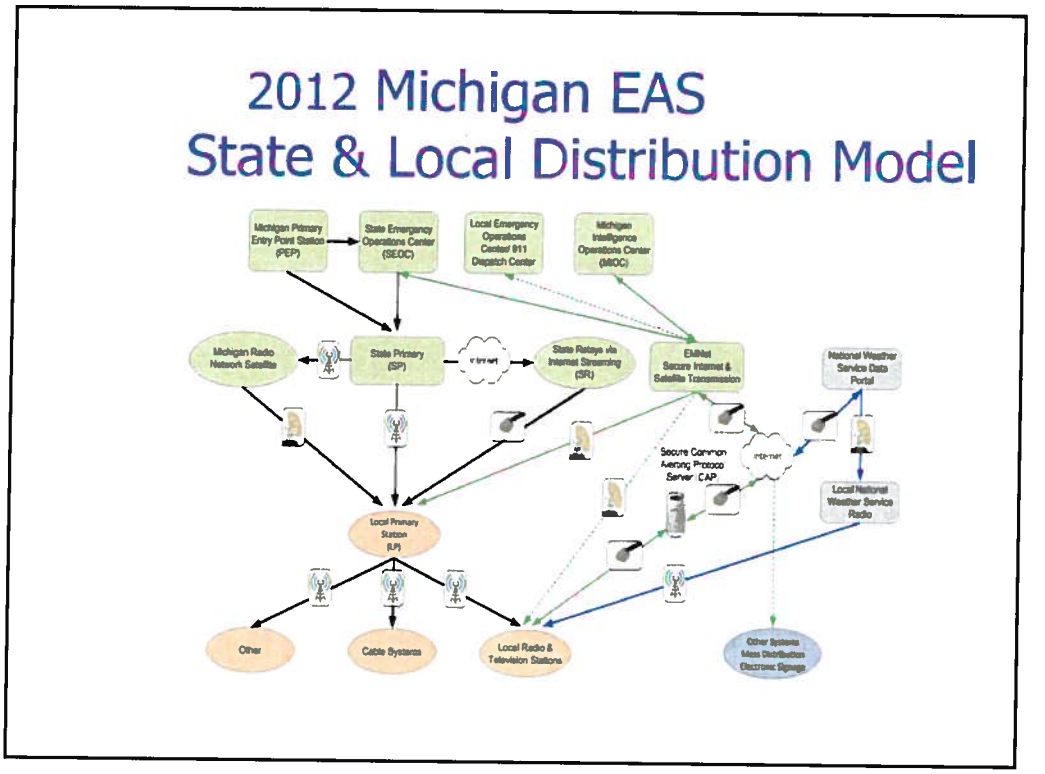
Using the template, he composes or modifies the existing text to describe the incident, its severity, and the desired public action. The additional text may be things like shelters, closed roads, orders to evacuate, what medicines to take, whether to bring pets, or other information.



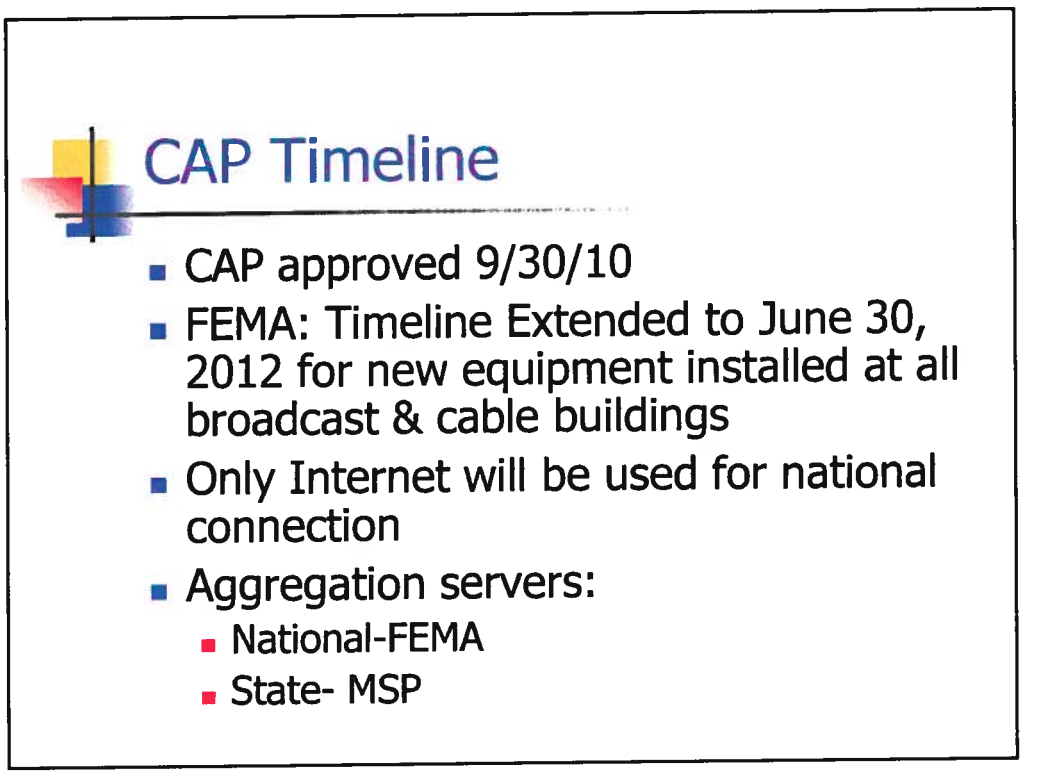
Before preparing the spoken message, the emergency manager selects the FIPS codes of the affected counties.

Now the emergency manager prepares and reads the script for the audio portion of the message. The video portion of the message for television is generated at the receiving end, directly from the text of the alert.

(Demonstration of the EMnet system in action)



To understand what just happened, here's a model of the local and state distribution system. My computer took the place of the emergency operations center, and the other machine could be any desired receive point at a radio station, TV station, or another emergency operations center.



CAP Time Line

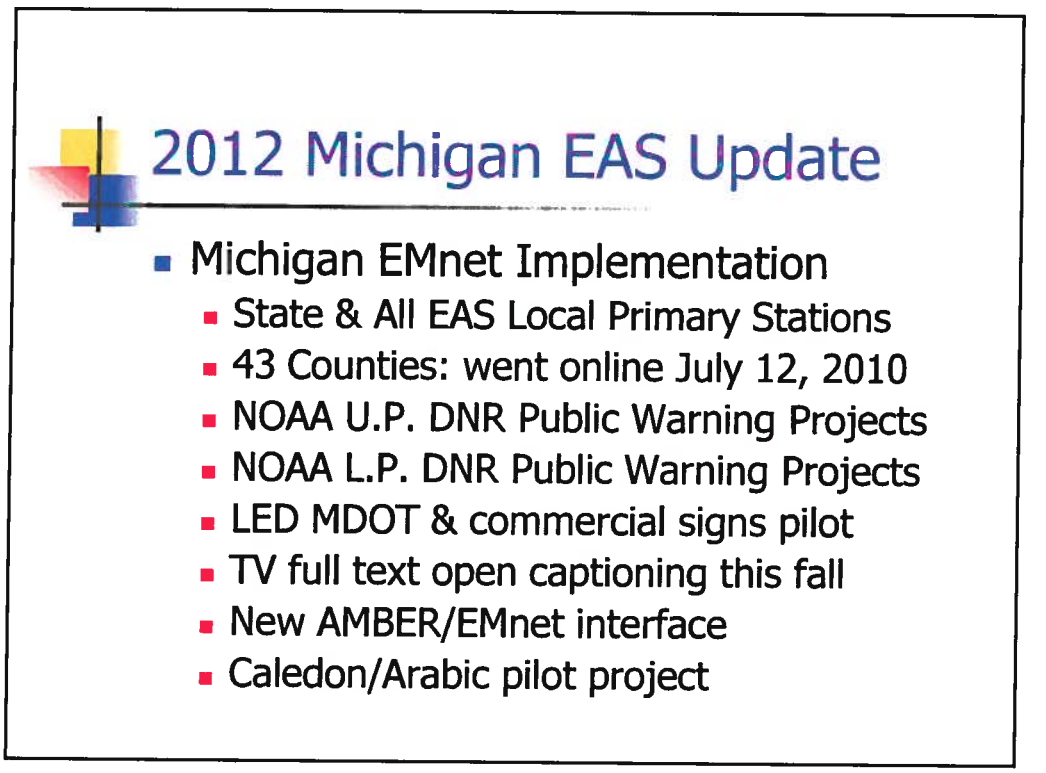
CAP approved 9/30/10

FEMA: Timeline Extended to June 30, 2012 for new equipment installed at all broadcast & cable buildings

Only Internet will be used for national connection

Aggregation servers:

- National-FEMA
- State- MSP



2012 Michigan EAS Update

Michigan EMnet Implementation

State & All EAS Local Primary Stations

43 Counties: went online July 12, 2010

NOAA U.P. DNR Public Warning Projects

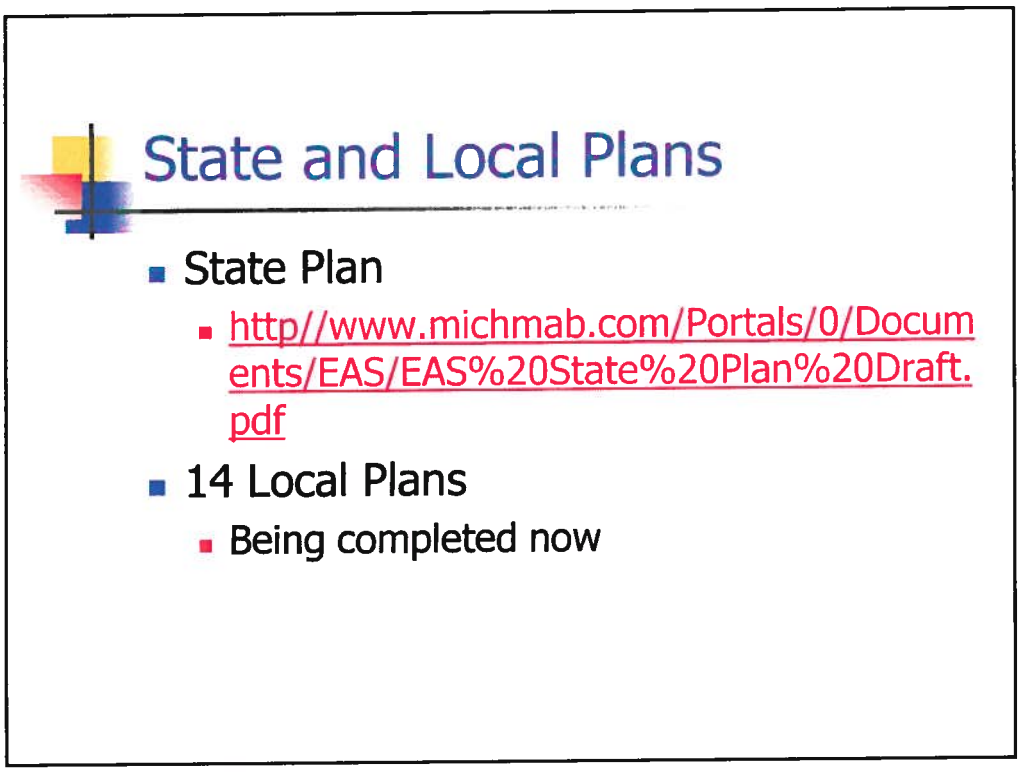
NOAA L.P. DNR Public Warning Projects

LED MDOT & commercial signs pilot

TV full text open captioning this fall

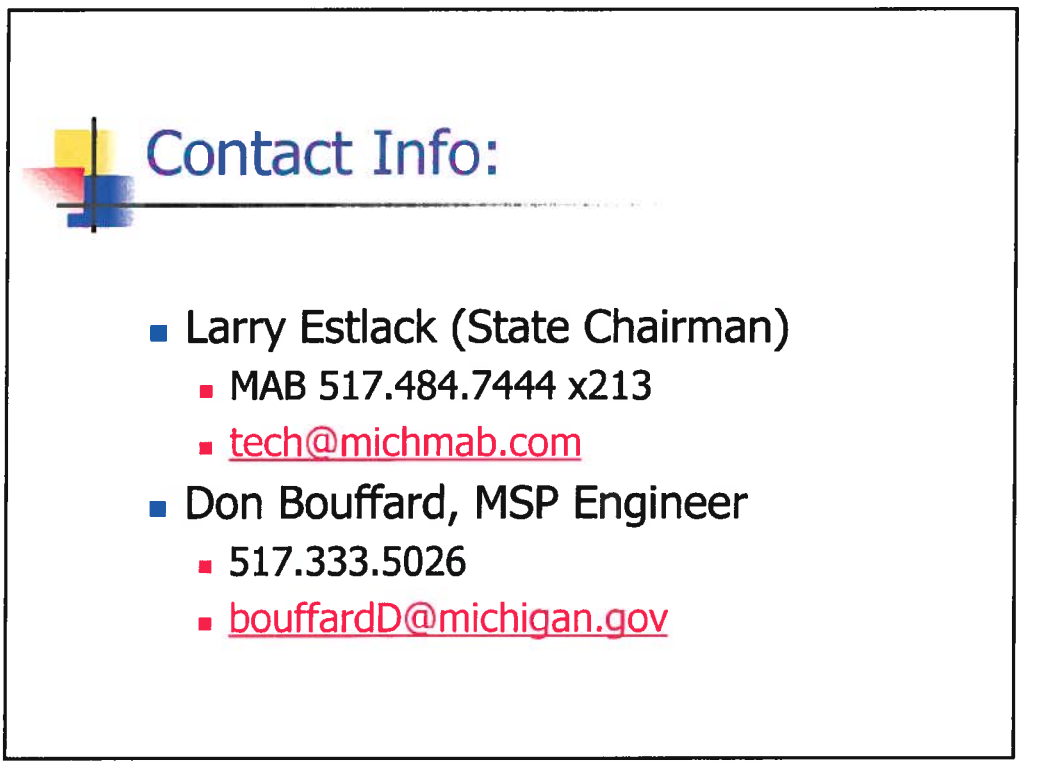
New AMBER/EMnet interface

Caledon/Arabic pilot project



Here is a link to the draft of the new state EAS plan, as well as the fourteen local EAS plans, which are being finalized now.

I want to thank all of the participating private and public agencies that work so well together to help create and operate the state emergency alert system.



Larry Estlack (State Chairman)

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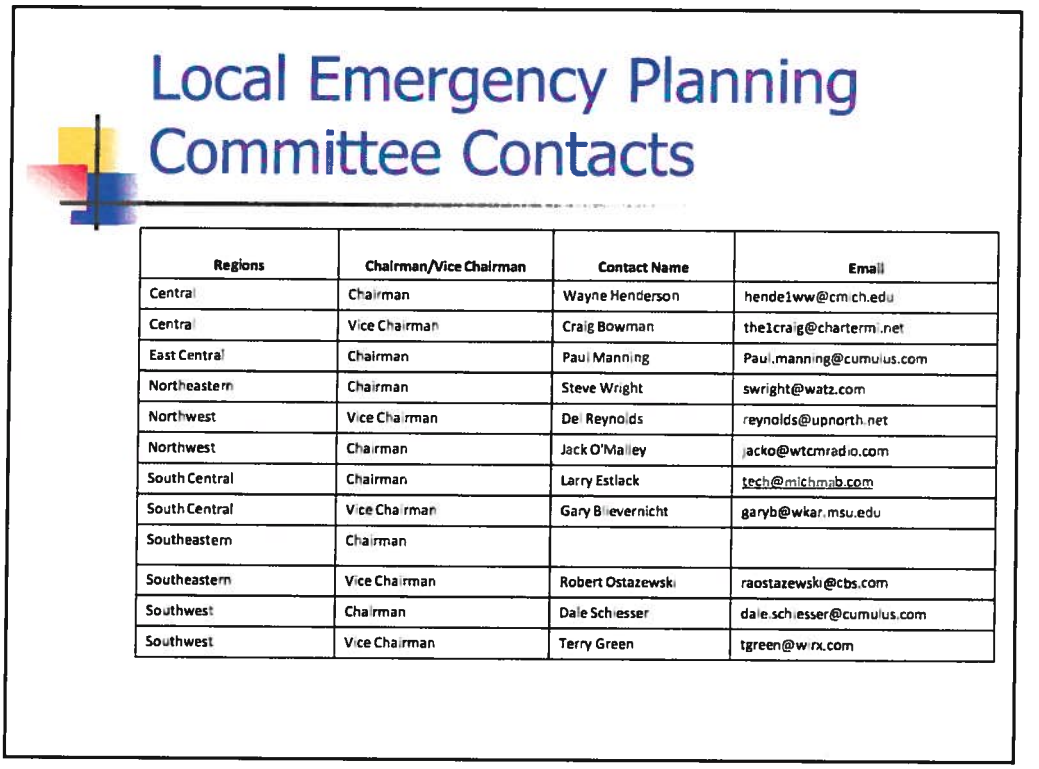
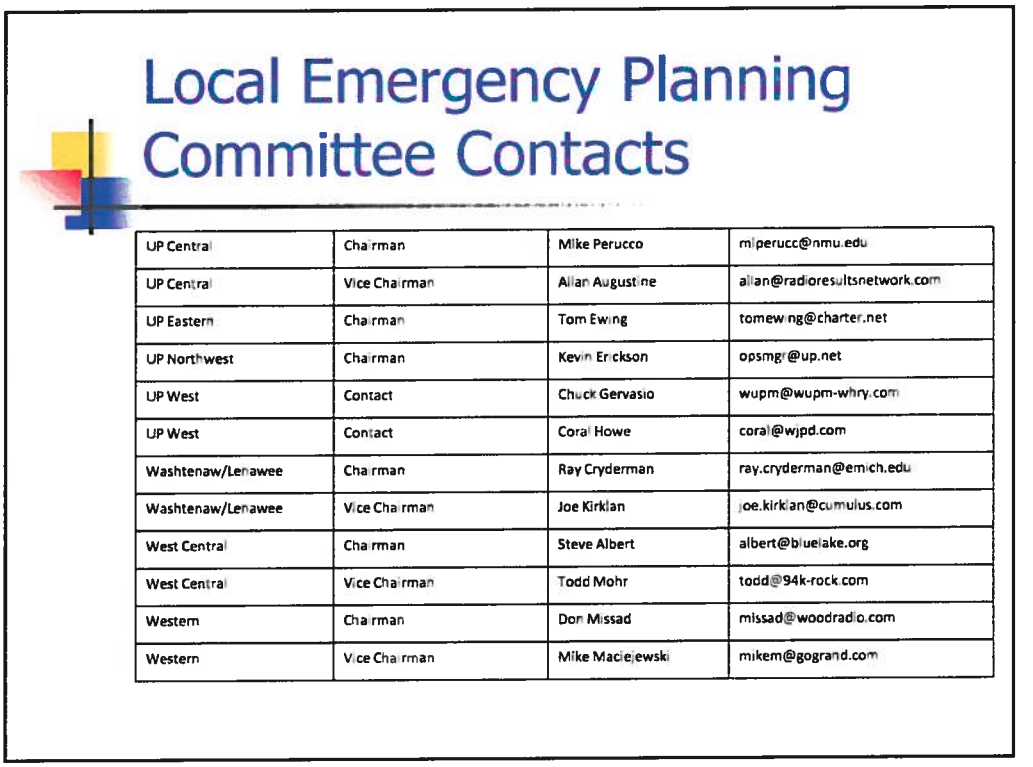


If you'd like to get in touch with your regional chairman or vice chairman, here are their names and e-mail addresses.



Local Emergency Planning Committee Contacts

UP Central	Chairman	Mike Perucco	miperucc@nmu.edu
UP Central	Vice Chairman	Allan Augustine	allan@radioresultsnetwork.com
UP Eastern	Chairman	Tom Ewing	tomewing@charter.net
UP Northwest	Chairman	Kevin Erickson	opsmgr@up.net
UP West	Contact	Chuck Gervasio	wupm@wupm-whry.com
UP West	Contact	Coral Howe	coral@wjpd.com
Washtenaw/Lenawee	Chairman	Ray Cryderman	ray.cryderman@emich.edu
Washtenaw/Lenawee	Vice Chairman	Joe Kirklan	joe.kirklan@cumulus.com
West Central	Chairman	Steve Albert	albert@bluelake.org
West Central	Vice Chairman	Todd Mohr	todd@94k-rock.com
Western	Chairman	Don Missad	missad@woodradio.com
Western	Vice Chairman	Mike Maciejewski	mikem@gogrand.com

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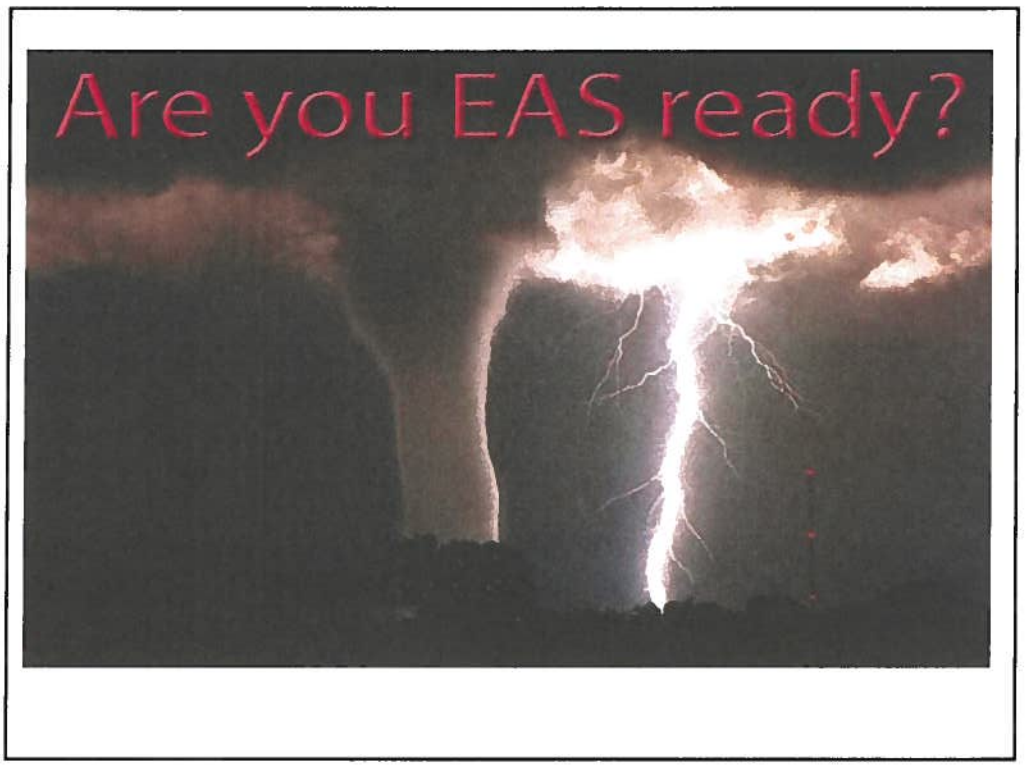
Are you EAS ready?